

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Sin J. Lee Examiner #: 76060 Date: 3-2-'05
 Art Unit: 1752 Phone Number 302-1333 Serial Number: 10/694,719
 Mail Box and Bldg/Room Location: 9D60 Results Format Preferred (circle): PAPER DISK E-MAIL
 (Rem.)

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

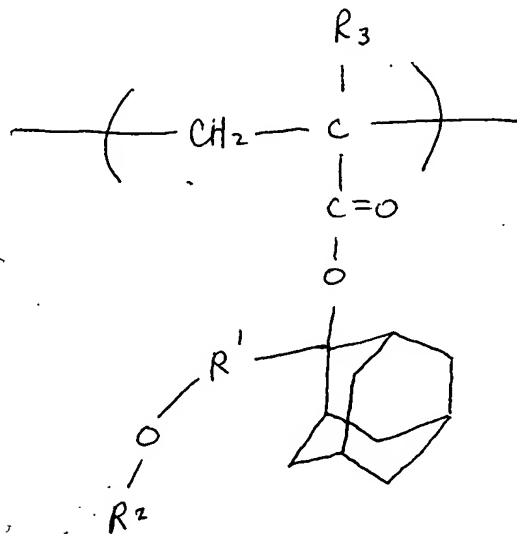
Title of Invention: Bib. attached SCIENTIFIC REFERENCE BR
 Sci & Tech Inf - Cnt

Inventors (please provide full names): _____
 MAR 6 REGD

Earliest Priority Filing Date: _____ Pat. & T.M. Office

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search for the following
 Polymer



$R_3 = H \text{ or } -CH_3$

$R_1 = \text{alkylene having } 1-4 \text{ carbon atoms}$

$R_2 = \text{alkyl having } 1-4 \text{ carbon atoms}$

Searcher: <u>CA</u>	NA Sequence (#) _____	STN _____
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) _____	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr.Link _____
Date Completed: <u>3-15-05</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: _____	Fulltext _____	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time: _____	Other _____	Other (specify) _____



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CONFIRMATION NO. 4022

Bib Data Sheet

SERIAL NUMBER 10/694,719	FILING DATE 10/29/2003 RULE	CLASS 430	GROUP ART UNIT 1752	ATTORNEY DOCKET NO. Q78208
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APPLICANTS

Yoshiyuki Takata, Toyonaka-shi, JAPAN;
 Youngjoon Lee, Toyonaka-shi, JAPAN;
 Koshiro Ochiai, Toyonaka-shi, JAPAN;

** CONTINUING DATA *****

** FOREIGN APPLICATIONS *****
 JAPAN 2002-315517 10/30/2002

IF REQUIRED, FOREIGN FILING LICENSE GRANTED
 ** 08/24/2004

Foreign Priority claimed 35 USC 119 (a-d) conditions met	<input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after Allowance	STATE OR COUNTRY JAPAN	SHEETS DRAWING 0	TOTAL CLAIMS 10	INDEPENDENT CLAIMS 2
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Verified and Acknowledged
 Examiner's Signature _____ Initials _____

ADDRESS
 23373
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 2100 PENNSYLVANIA AVENUE, N.W.
 SUITE 800
 WASHINGTON , DC
 20037

TITLE
 Chemical amplification type positive resist composition

FILING FEE	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	<input type="checkbox"/> All Fees
		<input type="checkbox"/> 1.16 Fees (Filing)
		<input type="checkbox"/> 1.17 Fees (Processing Ext. of time)

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FILE 'REGISTRY' ENTERED AT 14:23:30 ON 15 MAR 2005
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=> d his

FILE 'LREGISTRY' ENTERED AT 14:00:59 ON 15 MAR 2005
E ADAMANTINE/CN

L1 1 S E5
L2 STR 768-90-1

FILE 'REGISTRY' ENTERED AT 14:07:58 ON 15 MAR 2005

L3 4 S L2
L4 STR L2
L5 STR L4
L6 50 S L5
L7 1728 S L5 FUL
SAV L7 LEE719/A
L8 4 S L4 SSS SAM SUB=L7
L9 SCR 1313
L10 3 S L4 NOT L9 SSS SAM SUB=L7
L11 26 S L4 NOT L9 SSS FUL SUB=L7
SAV L11 LEE719A/A

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L12 0 S L11

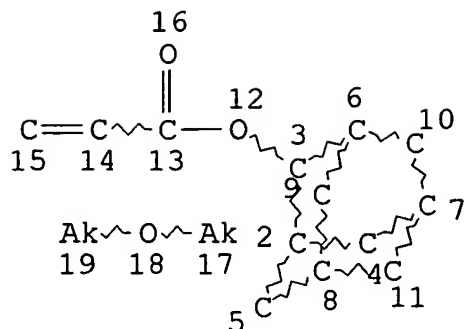
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L13 15 S L11

FILE 'REGISTRY' ENTERED AT 14:23:30 ON 15 MAR 2005

=> d l11 que stat

L4 STR



NODE ATTRIBUTES:

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CONNECT IS E1 RC AT 19

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GGCAT IS SAT AT 17

GGCAT IS SAT AT 19

DEFAULT ECLEVEL IS LIMITED

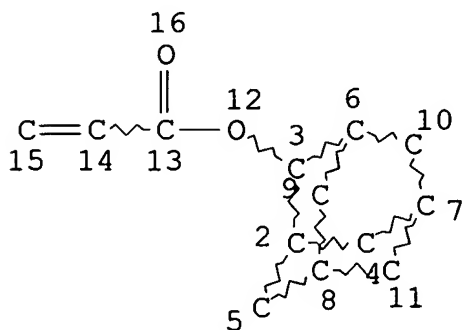
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NUMBER OF NODES IS 18

STEREO ATTRIBUTES: NONE

L5 STR



NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 15

STEREO ATTRIBUTES: NONE

L7 1728 SEA FILE=REGISTRY SSS FUL L5
L9 SCR 1313
L11 26 SEA FILE=REGISTRY SUB=L7 SSS FUL L4 NOT L9

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SEARCH TIME: 00.00.01

26 ANSWERS

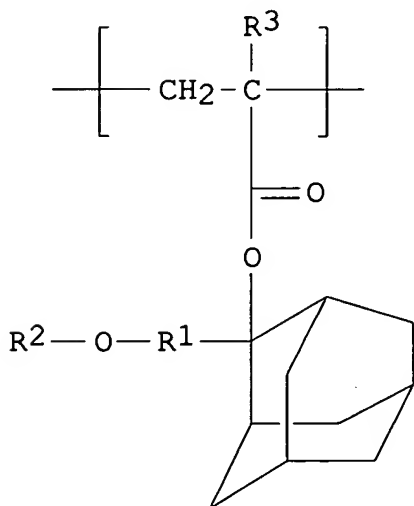
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PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

=> d l13 1-15 cbib abs hitstr hitrn

L13 ANSWER 1 OF 15 ZCAPLUS COPYRIGHT 2005 ACS on STN
2004:1128722 Document No. 142:82298 Chemical amplification-type
positive-working resist composition containing acrylic polymer.
Takada, Yoshiyuki; Li, Rong Bin; Ochiai, Koshiro (Sumitomo Chemical
Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2004359929 A2
20041224, 34 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP
2003-367050 20031028. PRIORITY: JP 2002-315517 20021030; JP
2003-131374 20030509.

GI



I

AB Disclosed is the chem. amplification-type pos.-working resist compn. comprising an acrylic resin represented by I (R1 = C1-4 alkylene; R2 = C1-4 alkyl; and R3 = H, Me). The fraction of I in the acrylic resin is 10-80%. In addn. to I, the resin may contain a polymer unit derived from 3-hydroxy-1-adamantyl (meth)acrylate, a polymer unit derived from 3,5-dihydroxy-1-adamantyl (meth)acrylate, a polymer unit derived from (meth)acryloyloxy-.gamma.-butyrolactone, etc. The resist is suitable for an excimer laser lithog.

IT 811800-66-5P 811800-67-6P 811800-68-7P

(photoacid for chem. amplification-type pos.-working resist compn. contg. acrylic polymer)

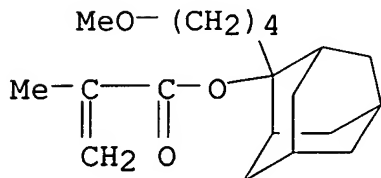
RN 811800-66-5 ZCAPLUS

CN 2-Propenoic acid, 2-methyl-, hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl ester, polymer with 2-(4-methoxybutyl)tricyclo[3.3.1.1^{3,7}]dec-2-yl 2-methyl-2-propenoate and tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

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CRN 501422-52-2

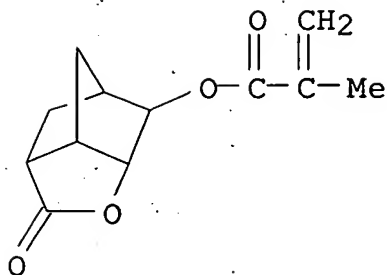
CMF C19 H30 O3



CM 2

CRN 254900-07-7

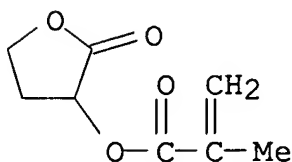
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CM 3

CRN 195000-66-9

CMF C8 H10 O4



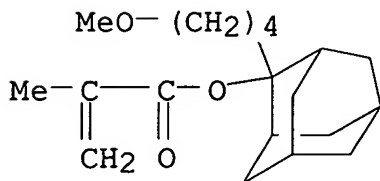
RN 811800-67-6 ZCAPLUS

CN 2-Propenoic acid, 2-methyl-, hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl ester, polymer with 2-(4-methoxybutyl)tricyclo[3.3.1.1^{3,7}]dec-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

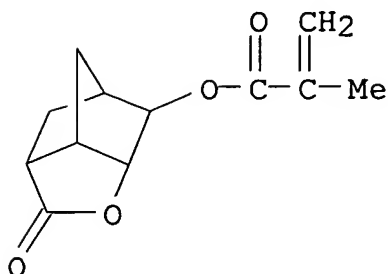
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CMF C19 H30 O3



CM 2

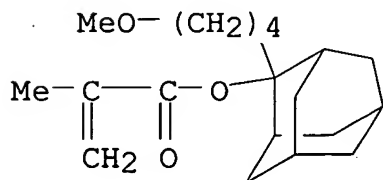
CRN 254900-07-7
CMF C12 H14 O4



·RN 811800-68-7 ZCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-(4-methoxybutyl)tricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-propenoate and 3-hydroxytricyclo[3.3.1.1^{3,7}]dec-1-yl 2-propenoate (9CI) (CA INDEX NAME)

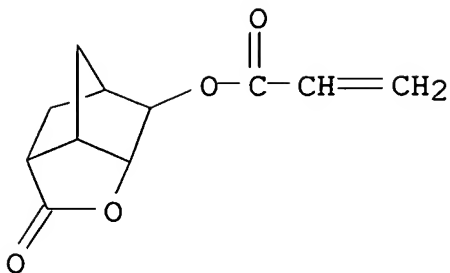
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CM 2

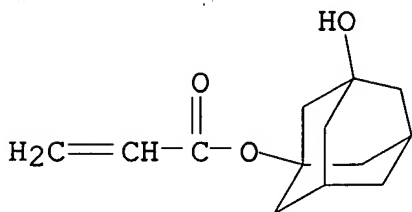
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CMF C11 H12 O4



CM 3

CRN 216581-76-9

CMF C13 H18 O3



IT 811800-66-5P 811800-67-6P 811800-68-7P

(photoacid for chem. amplification-type pos.-working resist
compn. contg. acrylic polymer)

L13 ANSWER 2 OF 15 ZCAPLUS COPYRIGHT 2005 ACS on STN

2004:1118877 Document No. 142:65315 Positive photoresist composition and method of forming pattern. Sato, Kenichiro (Fuji Photo Film Co., Ltd., Japan). Eur. Pat. Appl. EP 1489459 A1 20041222, 62 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR. (English). CODEN: EPXXDW. APPLICATION: EP 2004-14370 20040618. PRIORITY: JP 2003-173677 20030618; JP 2004-9104 20040116.

AB A pos. resist compn. comprising (A) a resin that increases soly. in a developing soln. by the action of an acid and comprises (a) a repeating unit contg. a group that is decompd. by the action of an acid to become alkali-sol., (b) a repeating unit contg. an alicyclic lactone structure, (c) a repeating unit contg. an alicyclic structure substituted with a hydroxy group and (d) a methacrylic acid repeating unit, wherein an amt. of the methacrylic acid repeating unit is from 5 to 18% by mole based on the total repeating units of the resin, and (B) a compd. that generates an acid upon

irradn. of an actinic ray or radiation. The object of the invention is to provide a pos. photoresist compn. which provides a wide process window in the formation of contact hole and restrains the formation of pit at the flow bake, and a method of forming a pattern using the inventive resist.

IT 811440-73-0P

(pos. photoresist compn. and method of forming pattern)

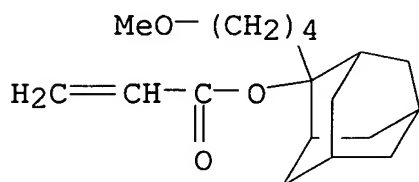
RN 811440-73-0 ZCAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with 5,7-dihydroxy-3-methyltricyclo[3.3.1.1^{3,7}]dec-1-yl 2-methyl-2-propenoate, hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-methyl-2-propenoate and 2-(4-methoxybutyl)tricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 581784-05-6

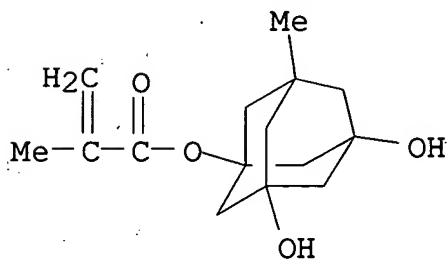
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CM 2

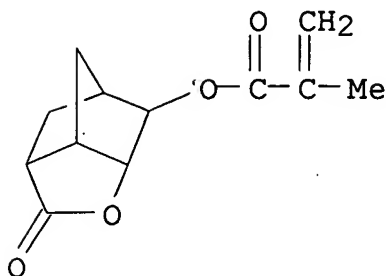
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CMF C15 H22 O4



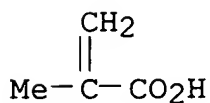
CM 3

CRN 254900-07-7
CMF C12 H14 O4



CM 4

CRN 79-41-4
CMF C4 H6 O2



IT 811440-73-0P

(pos. photoresist compn. and method of forming pattern)

L13 ANSWER 3 OF 15 ZCAPLUS COPYRIGHT 2005 ACS on STN

2004:1035977 Document No. 142:45893 Positive resist composition.

Sato, Kenichiro (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai

Tokkyo Koho JP 2004341247 A2/20041202, 73 pp. (Japanese). CODEN:

JKXXAF. APPLICATION: JP 2003-137840 20030515.

AB Title compn. comprises (A) resin components contg. certain structural repeating units and having increased soly. in an alk. soln., (B) radiation-sensitive acid generators, and (C) solvents.

IT 801304-22-3 801304-25-6

(pos. resist compn. with good exposure margin)

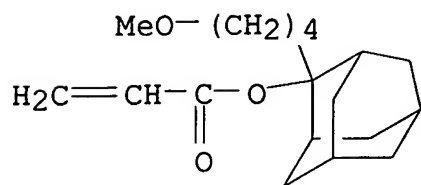
RN 801304-22-3 ZCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3,5-dihydroxytricyclo[3.3.1.1^{3,7}]dec-1-yl ester, polymer with 2-(4-methoxybutyl)tricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate and 5-oxo-4-oxatricyclo[4.3.1.1^{3,8}]undec-1-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 581784-05-6

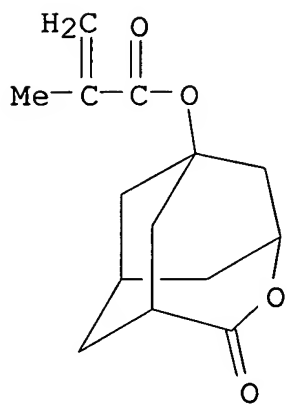
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CM 2

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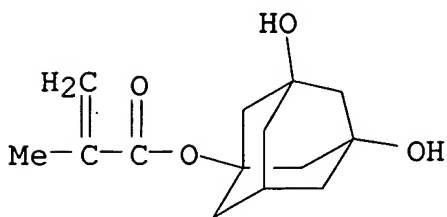
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CM 3

CRN 115522-15-1

CMF C14 H20 O4



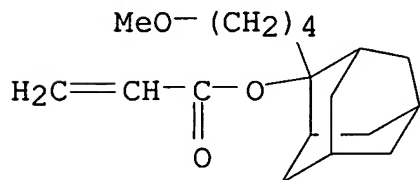
RN 801304-25-6 ZCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-hydroxy-5,7-dimethyltricyclo[3.3.1.1^{3,7}]dec-1-yl ester, polymer with 2-(4-methoxybutyl)tricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate and 5-oxo-4-oxatricyclo[4.3.1.1^{3,8}]undec-1-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 581784-05-6

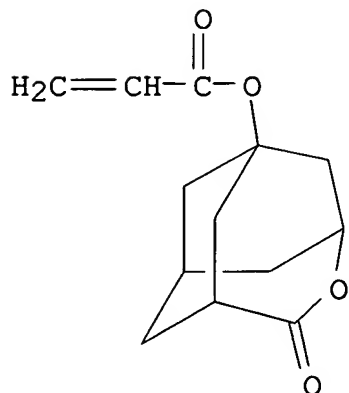
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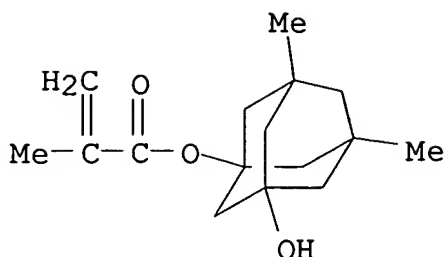
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CM 3

CRN 115522-17-3

CMF C16 H24 O3



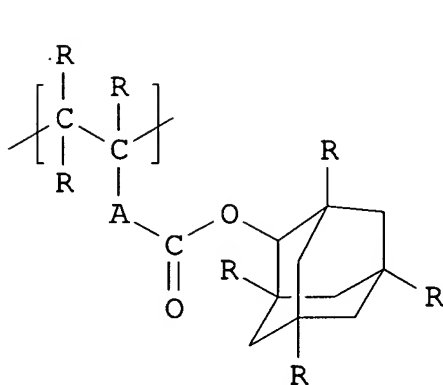
IT 801304-22-3 801304-25-6

(pos. resist compn. with good exposure margin)

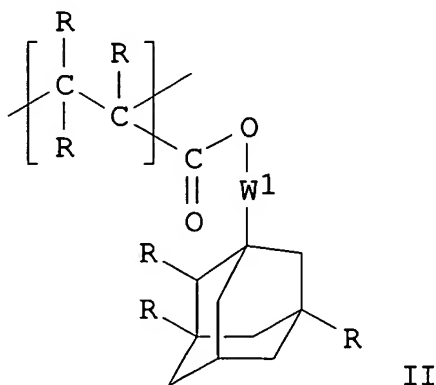
L13 ANSWER 4 OF 15 ZCAPLUS COPYRIGHT 2005 ACS on STN

2004:824996 Document No. 141:340392 Positive resist composition and method of pattern formation. Yamanaka, Tsukasa; Sato, Kenichiro (Fuji Photo Film Co., Ltd., Japan). U.S. Pat. Appl. Publ. US 2004197707 A1 20041007, 52 pp. (English). CODEN: USXXCO. APPLICATION: US 2004-801723 20040317. PRIORITY: JP 2003-95804 20030331.

GI



I



II

AB A pos. resist compn. comprises: at least two resins which differ in glass transition temp. by at least 5.degree. C and have structural formulas I and II (R = H, OH, halogen, C1-4-alkyl, provided that R's are the same or different; A = single bond, alkylene, ether, thioether, carbonyl, ester, amide, sulfonamide, urethane, urea; W1 = alkylene group.); and a compd. which generates an acid upon irradiation with actinic rays or radiation, wherein each of the two resins comprises at least either of a repeating unit derived from an

acrylic acid deriv. monomer and a repeating unit derived from an methacrylic acid deriv. monomer and further comprises an alicyclic structure and at least one group that increases a soly. of the resin in alk. developer by the action of an acid. The object of the invention is to provide a resist compn. which is suitable for exposure to light having a wavelength of 200 nm or shorter, in particular, exposure with an ArF excimer laser, shows sufficient resolu. even in ordinary pattern formation, and has such thermal flow suitability that a reduced pattern size can be obtained only through flow bake at an appropriate temp., and it is easy to regulate the flow amt. while attaining an appropriate flow rate.

IT 581784-06-7P

(pos. resist compn. and method of pattern formation)

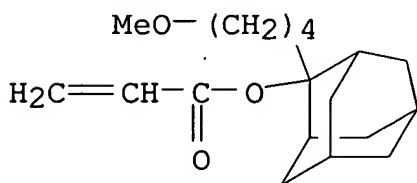
RN 581784-06-7 ZCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3,5-dihydroxytricyclo[3.3.1.1^{3,7}]dec-1-yl ester, polymer with hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-methyl-2-propenoate and 2-(4-methoxybutyl)tricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate (9CI)
(CA INDEX NAME)

CM 1

CRN 581784-05-6

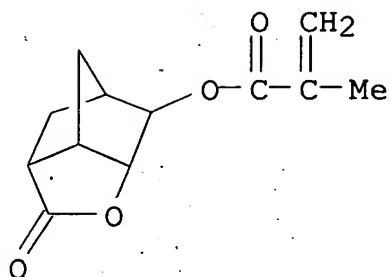
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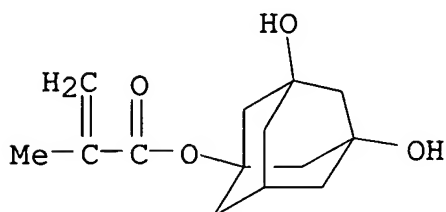
CMF C12 H14 O4



CM 3

CRN 115522-15-1

CMF C14 H20 O4



IT 581784-06-7P

(pos. resist compn. and method of pattern formation)

L13 ANSWER 5 OF 15 ZCAPLUS COPYRIGHT 2005 ACS on STN

2004:802414 Document No. 141:322575 Positive working chemically amplified photoresist composition producing patterns with reduced line edge roughness. Nakao, Hajime; Momota, Makoto (Fuji Photo Film Co., Ltd., Japan). U.S. Pat. Appl. Publ. US 2004191676 A1 20040930, 58 pp. (English). CODEN: USXXCO. APPLICATION: US 2004-809389 20040326. PRIORITY: JP 2003-89021 20030327.

AB A pos. photoresist is described that produces patterns with reduced line edge roughness and allowing wide defocuss latitude in forming various patterns. The photoresist formulation includes a photoacid generator, a solvent and a matrix resin comprising .gtoreq. 1 acrylate deriv. repeating units, repeating units having lactone structures and repeating units having OH group-substituted adamantane structures. The resin has glass transition temp. in the range of 70- 155.degree. C. and is capable of increasing its soly. in an alkali developer.

IT 581784-06-7P

(pos. working chem. amplified photoresist formulation that produces patterns with reduced line edge roughness)

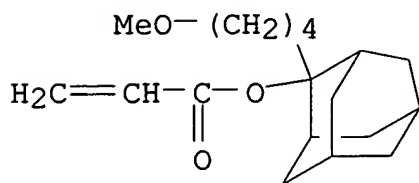
RN 581784-06-7 ZCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3,5-dihydroxytricyclo[3.3.1.1^{3,7}]dec-1-yl ester, polymer with hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-methyl-2-propenoate and 2-(4-methoxybutyl)tricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate (9CI) .
(CA INDEX NAME)

CM 1

CRN 581784-05-6

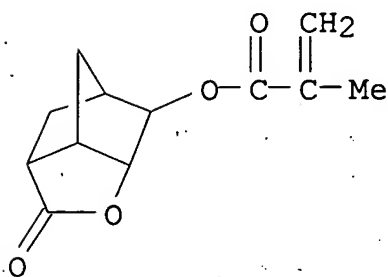
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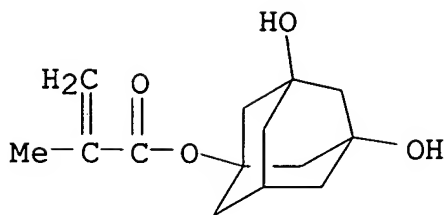
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CM 3

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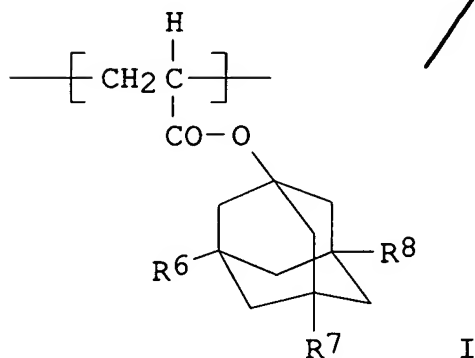


IT 581784-06-7P

(pos. working chem. amplified photoresist formulation that produces patterns with reduced line edge roughness)

L13 ANSWER 6 OF 15 ZCAPLUS COPYRIGHT 2005 ACS on STN
 2004:700962 Document No. 141:197371 Chemically amplified
 positive-working photoresist compositions for far-UV lithography.
 Sato, Kenichiro; Yamanaka, Tsukasa; Momota, Atsushi (Fuji Photo Film
 Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2004240044 A2
 20040826, 73 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP
 2003-27202 20030204.

GI



AB The photoresist compns. contain polymers (A) whose all repeating units are acrylate esters including alicyclic lactone acrylate ester repeating unit and adamantane acrylate repeating unit I (R6-8 = H, OH, alkyl; at least one of R6-8 is OH) and increase soly. rate in alk. developers by acid action, photoacid generators (B), and solvents (C). The compns. have less dependence on post-exposure-baking temp., and provide good-profile patterns with good surface smoothness.

IT 738587-52-5P

(in far-UV pos. photoresists contg. adamantane acrylate-alicyclic lactone copolymers and photoacid generators)

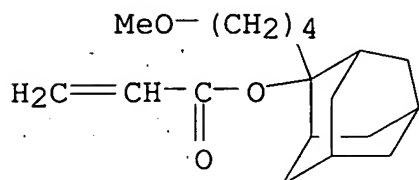
RN 738587-52-5 ZCAPLUS

CN 2-Propenoic acid, 3,5-dihydroxytricyclo[3.3.1.1^{3,7}]dec-1-yl ester, polymer with hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-propenoate and 2-(4-methoxybutyl)tricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 581784-05-6

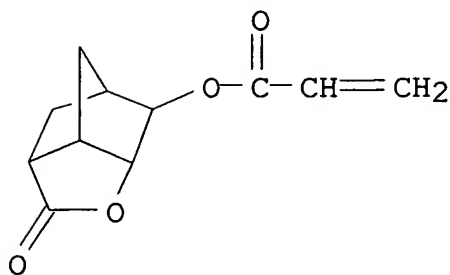
CMF C18 H28 O3



CM 2

CRN 242129-35-7

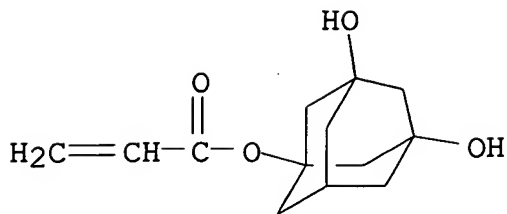
CMF C11 H12 O4



CM 3

CRN 216581-85-0

CMF C13 H18 O4



IT 738587-52-5P

(in far-UV pos. photoresists contg. adamantane acrylate-alicyclic lactone copolymers and photoacid generators)

L13 ANSWER 7 OF 15 ZCAPLUS COPYRIGHT 2005 ACS on STN

2004:433363 Document No. 140:431417 Chemically amplified

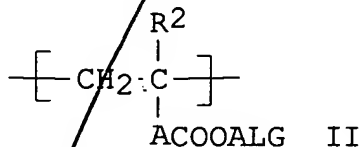
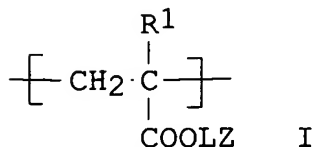
positive-working far-UV photoresist compositions. Sato, Kenichiro

(Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP

2004151364 A2 20040527, 69 pp. (Japanese). CODEN: JKXXAF.

APPLICATION: JP 2002-316354 20021030.

GI

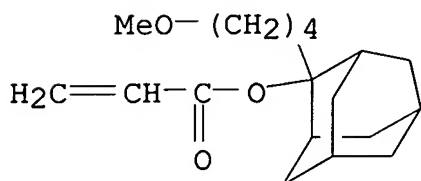


AB The compns. contain polymers increasing soly. rate in alk. developers upon acid action and contg. repeating units of A1-3 including [A1; CH₂C(R1)(CO₂LZ)] [R1 = H, alkyl; L = single bond, alkylene, ether, ester, etc.; Z = CO₂H, OH, SO₂N(R3)₂, COCH₂COR₄, etc.; R3, R5-7 = H, alkyl; R4 = hydrocarbyl; m = 1-20; Z = [CH(R5)CH(R6)O]_mR7 when L = single bond], [A2; CH₂C(R2)(ACO₂ALG)] [R2 = H, Me; A = single bond, connecting group; ALG = Q, etc.; R11 = Me, Et, Pr, etc.; Z = at. group forming alicyclic hydrocarbylene group with carbon], and [A3; CH₂C(R3)(A'Z₃(OH)_p)] [R3 = H, Me; A' = single bond, divalent connecting group; Z₃ = alicyclic hydrocarbylene having valences of (p + 1); p = 1-3]; naphthalene sulfonate photoacid generator I [RB1-B2 = H, C1-4 alkyl; RB3 = OH, ORB4; RB4 = C1-15 monovalent org. group; A1- = monovalent anion; a = 4-7; b = 0-7]; and solvents. The polymers may further contain repeating units of cyclohexanelactone, norbornane lactone, or adamantane lactone. The compns. provide good pattern profile.

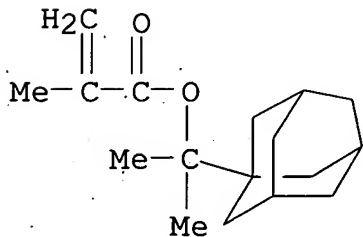
(in chem. amplified pos.-working far-UV photoresist compns.
contg. naphthalene sulfonate photoacid generators)

CN 2-Propenoic acid, 2-methyl-, 3,5-dihydroxytricyclo[3.3.1.1^{3,7}]dec-1-yl ester, polymer with hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-methyl-2-propenoate, 2-(4-methoxybutyl)tricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate, 2-(2-methoxyethoxy)ethyl 2-methyl-2-propenoate and 1-methyl-1-tricyclo[3.3.1.1^{3,7}]dec-1-ylethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

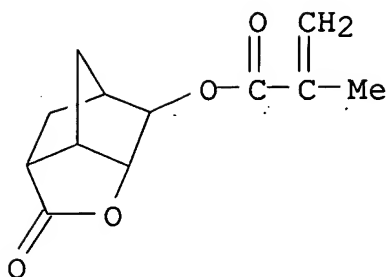
CMF: C18 H28 O3



CMF C17 H26 O2



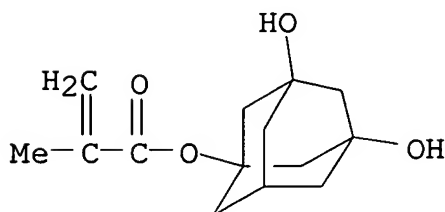
CMF C12 H14 O4



CM 4

CRN 115522-15-1

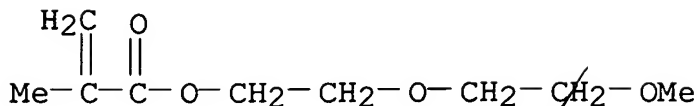
CMF C14 H20 O4



CM 5

CRN 45103-58-0

CMF C9 H16 O4



IT 680223-08-9

(in chem. amplified pos.-working far-UV photoresist compns.
contg. naphthalene sulfonate photoacid generators)

L13 ANSWER 8 OF 15 ZCAPLUS COPYRIGHT 2005 ACS on STN

2004:430044 Document No. 140:414953 Chemically amplified

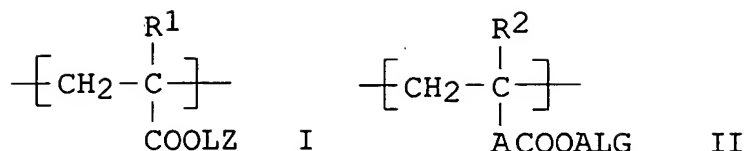
positive-working far-UV photoresist compositions. Sato, Kenichiro;

Kodama, Kunihiko (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai

Tokkyo Koho JP 2004151355 A2 20040527, 75 pp. (Japanese). CODEN:

JKXXAF. APPLICATION: JP 2002-316284 20021030.

GI



AB The compns. contain polymers increasing soly. rate in alk. developers upon acid action and contg. repeating units of A1-3 including [A1; CH₂C(R1)(CO₂LZ)] [R1 = H, alkyl; L = single bond, alkylene, ether, ester, etc.; Z = CO₂H, OH, SO₂N(R₃)₂, COCH₂COR₄, etc.; R₃, R₅-7 = H, alkyl; R₄ = hydrocarbyl; m = 1-20; Z = [CH(R₅)CH(R₆)O]_mR₇ when L = single bond], [A2; CH₂C(R2)(ACO₂ALG)] [R2 = H, Me; A = single bond, connecting group; ALG = Q, etc.; R₁₁ = Me, Et, Pr, etc.; Z = at. group forming alicyclic hydrocarbylene group with carbon], and [A3; CH₂C(R3)(A'Z₃(OH)p)] [R₃ = H, Me; A' = single bond, divalent connecting group; Z₃ = alicyclic hydrocarbylene having valences of (p + 1); p = 1-3]; sulfonate enone photoacid generator I or II [RB₁-B₃ = H, alkyl, alkenyl, etc.; RB₄-B₅ = H, cyano, alkyl, etc.; Y₁-2 = alkyl, aryl, aralkyl, etc.; n = 1-4; .gtoreq.2 selected from RB₁-B₅ and Y₁-2 may form a ring; .gtoreq.2 selected from RB₁-B₅ and Y₁-2 may be bonded to via a connecting group so as to have .gtoreq.2 structure of I and/or II; X⁻ = nonnucleophilic anion]; and solvents. The polymers may further contain repeating units of cyclohexanelactone, norbornane lactone, or adamantane lactone. The compns. provide sharp line edge patterns.

IT 680223-08-9

(in chem. amplified pos.-working far-UV photoresist compns. contg. sulfonate enone photoacid generators)

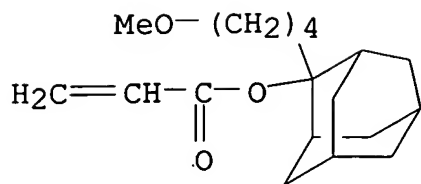
RN 680223-08-9 ZCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3,5-dihydroxytricyclo[3.3.1.1^{3,7}]dec-1-yl ester, polymer with hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-methyl-2-propenoate, 2-(4-methoxybutyl)tricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate, 2-(2-methoxyethoxy)ethyl 2-methyl-2-propenoate and 1-methyl-1-tricyclo[3.3.1.1^{3,7}]dec-1-ylethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 581784-05-6

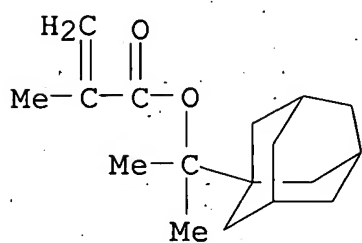
CMF C18 H28 O3



CM 2

CRN 279218-76-7

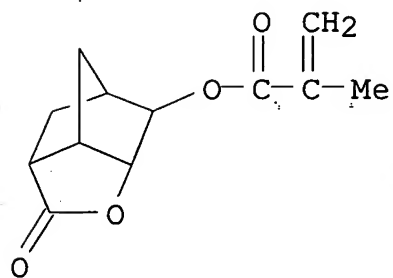
CMF C17 H26 O2



CM 3

CRN 254900-07-7

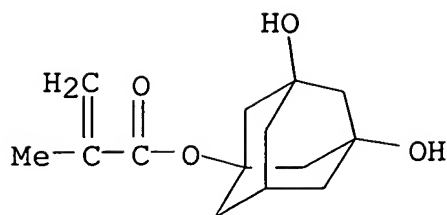
CMF C12 H14 O4



CM 4

CRN 115522-15-1

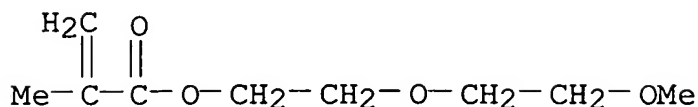
CMF C14 H20 O4



CM 5

CRN 45103-58-0

CMF C9 H16 O4



IT 680223-08-9

(in chem. amplified pos.-working far-UV photoresist compns.
contg. sulfonate enone photoacid generators)

L13 ANSWER 9 OF 15 ZCAPLUS COPYRIGHT 2005 ACS on STN

2004:310383 Document No. 140:347505 Photo-acid generation type
positive-working photoresist composition. Sato, Kenichiro (Fuji
Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2004117883
A2 20040415, 79 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP
2002-281545. 20020926.

AB The disclosed photoresist compn. contains a photo-acid generating
agent and a vinyl polymer comprising first repeating units whose
monomer has a specified end group, second repeating units having
decomposable group protected by alicyclic structure, and third
repeating units having acid having alicyclic alc. moiety. The
photoresist compn. has good sensitivity towards ArF excimer laser
radiation and give fine line patterns without undesirable bridging.

IT 680223-08-9P

(far UV sensitive photoacid generation type pos. working
photoresist contg.)

RN 680223-08-9 ZCAPLUS

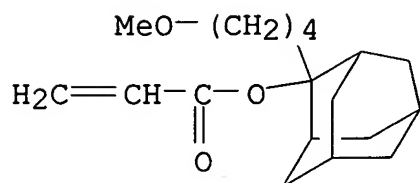
CN 2-Propenoic acid, 2-methyl-, 3,5-dihydroxytricyclo[3.3.1.1^{3,7}]dec-1-
yl ester, polymer with hexahydro-2-oxo-3,5-methano-2H-
cyclopenta[b]furan-6-yl 2-methyl-2-propenoate, 2-(4-
methoxybutyl)tricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate,
2-(2-methoxyethoxy)ethyl 2-methyl-2-propenoate and
1-methyl-1-tricyclo[3.3.1.1^{3,7}]dec-1-ylethyl 2-methyl-2-propenoate

(9CI) (CA INDEX NAME)

CM 1

CRN 581784-05-6

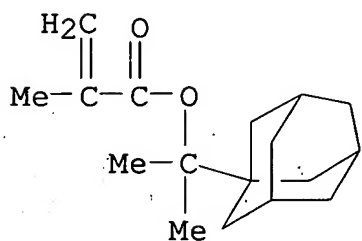
CMF C18 H28 O3



CM 2

CRN 279218-76-7

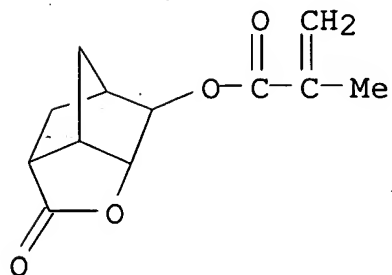
CMF C17 H26 O2



CM 3

CRN 254900-07-7

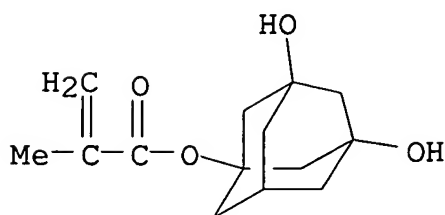
CMF C12 H14 O4



CM 4

CRN 115522-15-1

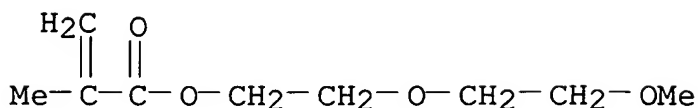
CMF C14 H20 O4



CM 5

CRN 45103-58-0

CMF C9 H16 O4



IT 680223-08-9P

(far UV sensitive photoacid generation type pos. working photoresist contg.)

L13 ANSWER 10 OF 15 ZCAPLUS COPYRIGHT 2005 ACS on STN

2004:271951 Document No. 140:294796 Excimer laser-sensitive chemically amplified photoresist compositions with high sensitivity, resolution, and etching resistance. Sato, Kenichiro (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2004101642 A2 20040402, 81 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-260191 20020905.

AB The compns., useful for manufg. semiconductor devices, comprise (A) resins with Tg 120-180.degree. increasing their alkali soly. by acid-induced decompn., (B) photoacid generators, and (C) solvents, wherein the resins have partial structures of OH groups substituted by alicyclic hydrocarbon groups. The alicyclic structures may have adamantane groups.

IT 676260-16-5P

(excimer laser-sensitive photoresists with high sensitivity, resolu., and etching resistance)

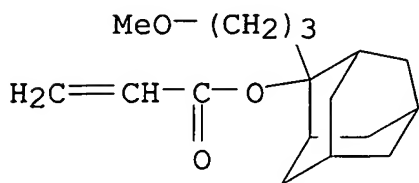
RN 676260-16-5 ZCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3,5-dihydroxytricyclo[3.3.1.1^{3,7}]dec-1-yl ester, polymer with hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-propenoate and 2-(3-methoxypropyl)tricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 676260-15-4

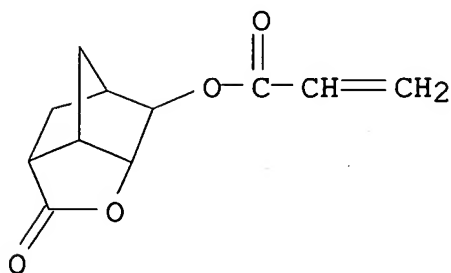
CMF C17 H26 O3



CM 2

CRN 242129-35-7

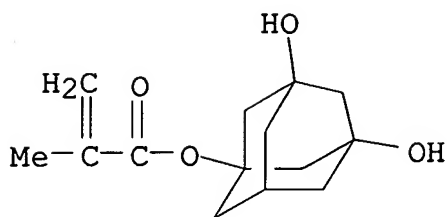
CMF C11 H12 O4



CM 3

CRN 115522-15-1

CMF C14 H20 O4



IT 676260-16-5P

(excimer laser-sensitive photoresists with high sensitivity, resoln., and etching resistance)

L13 ANSWER 11 OF 15 ZCAPLUS COPYRIGHT 2005 ACS on STN

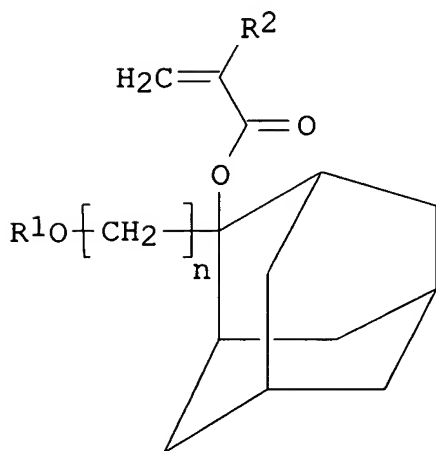
2003:991472 Document No. 140:28360 2-alkoxyalkyl-2-adamantyl

(meth)acrylate. Bae, Eun Hyoung; Song, Young Bae; Oh, Dong Ju (ENF Technology Co., Ltd., S. Korea). PCT Int. Appl. WO 2003104182 A1 20031218, 14 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ,

BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English).

CODEN: PIXXD2. APPLICATION: WO 2003-KR1151 20030611. PRIORITY: KR 2002-32554 20020611.

GI



I

AB 2-Alkoxyalkyl-2-adamantyl (meth)acrylate I (R1 = H, C1-4 alkyl, C3-8 cycloalkyl; R2 = H, methyl; N = integer) is used as monomer for

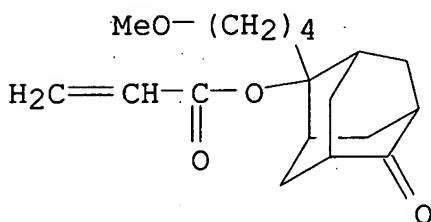
prodn. of photocurable resin or as drug intermediate. Thus, 120.17 g 2-adamantanone was reacted with 4-methoxybutylmagnesium chloride obtained from magnesium 26.7 and 4-methoxybutyl chloride 108.57 g to form 2-(methoxybutyl)-2-adamantanol (yield 80%), 44.87 g of which was reacted with 25.34 g acryloyl chloride in the presence of 32.38 g triethylamine to give 2-(4-methoxybutyl)-2-adamantyl acrylate in yield 80%.

IT 634590-63-9P 634590-64-0P

(prepn. of 2-alkoxyalkyl-2-adamantyl (meth)acrylate for photocurable resin and drug)

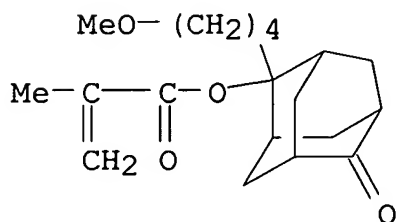
RN 634590-63-9 ZCAPLUS

CN 2-Propenoic acid, 2-(4-methoxybutyl)-6-oxotricyclo[3.3.1.1^{3,7}]dec-2-yl ester (9CI) (CA INDEX NAME)



RN 634590-64-0 ZCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-(4-methoxybutyl)-6-oxotricyclo[3.3.1.1^{3,7}]dec-2-yl ester (9CI) (CA INDEX NAME)



IT 634590-63-9P 634590-64-0P

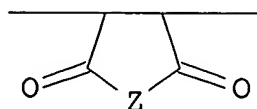
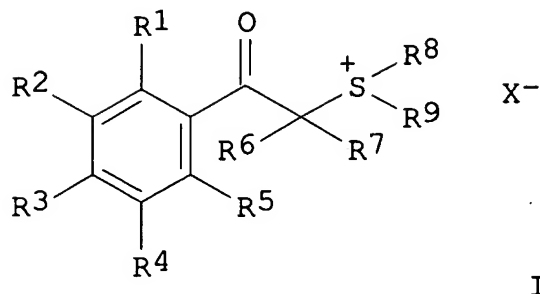
(prepn. of 2-alkoxyalkyl-2-adamantyl (meth)acrylate for photocurable resin and drug)

L13 ANSWER 12 OF 15 ZCAPLUS COPYRIGHT 2005 ACS on STN

2003:907515 Document No. 139:401544 Positive-working chemically amplification type photoresist composition showing improved pattern profile and line edge roughness. Sato, Kenichiro (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003330194 A2 20031119, 81 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP

2002-138810 20020514.

GI



AB The title photoresist compn., esp. sensitive to a ArF excimer laser stepper, comprises (A) a photoacid generator represented by I [R1-5 = H, alkyl, alkoxy, halo; R6, R7 = H, alkyl, aryl; R8, R9 = alkyl, 2-oxoalkyl, alkoxycarbonylmethyl, allyl, vinyl; X- = sulfonic, carboxylic, sulfonylimide anion] or S+(R1)(R2)(R3).X- [R1-3 = alkyl, 2-oxoalkyl; X- = anion] and (B) an alk.-developable resin contg. structural repeating units of CH(R1):CH(OR2) [R1 = H, hydrocarbyl; R2 = hydrocarbyl], II [Z = O, NR3; R3 = H, OH, alkyl, haloalkyl, OSO2R4; R4 = alkyl, haloalkyl, cycloalkyl, camphoryl], and CH2:C(R)(A1COOA2(Z2)1(A3R')m) [R = H, methyl; A1 = single bond, connection bond; A2 = single bond, alkylene, ether, ester; Z2 = alicyclic hydrocarbyl; 1 = 0, 1; A3 = single bond, alkylene, ether, ester; R' = CN; m = 1-3]. The photoresist compn. is suitable for microphotofabrication processes.

IT 625422-33-5P 625422-43-7P

(pos.-working-chem. amplification type photoresist compn. showing improved pattern profile and line edge roughness)

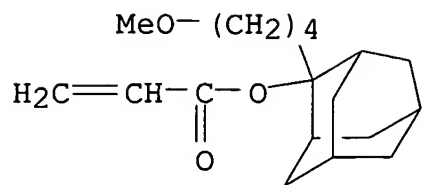
RN 625422-33-5 ZCAPLUS

CN 2-Propenoic acid, 2-cyanoethyl ester, polymer with (ethenyloxy)cyclohexane, 2,5-furandione and 2-(4-methoxybutyl)tricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate (9CI). (CA INDEX NAME)

CM 1

CRN 581784-05-6

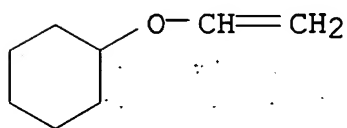
CMF C18 H28 O3



CM 2

CRN 2182-55-0

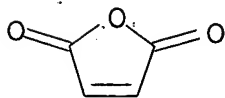
CMF C8 H14 O



CM 3

CRN 108-31-6

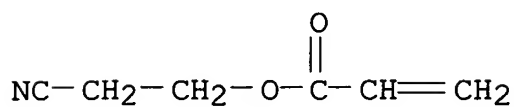
CMF C4 H2 O3



CM 4

CRN 106-71-8

CMF C6 H7 N O2



RN 625422-43-7 ZCAPLUS

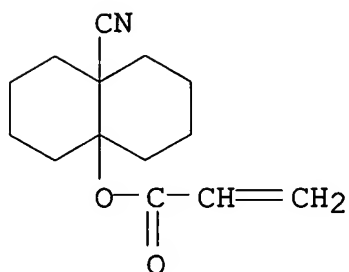
CN Tricyclo[3.3.1.1^{3,7}]decane-1-carboxylic acid, 2-(ethenyloxy)ethyl

ester, polymer with 8a-cyanoctahydro-4a(2H)-naphthalenyl
2-propenoate, 2,5-furandione and 2-(4-methoxybutyl)tricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 625422-42-6

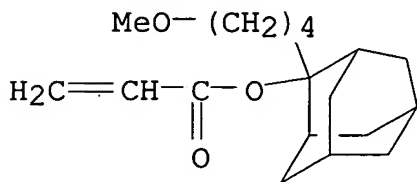
CMF C14 H19 N O2



CM 2

CRN 581784-05-6

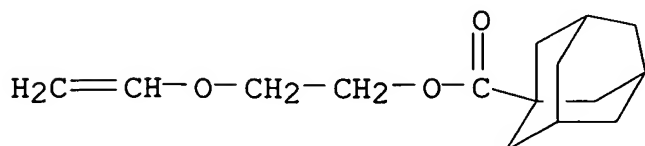
CMF C18 H28 O3



CM 3

CRN 219774-72-8

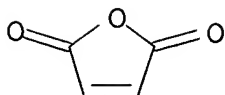
CMF C15 H22 O3



CM 4

CRN 108-31-6

CMF C4 H2 O3



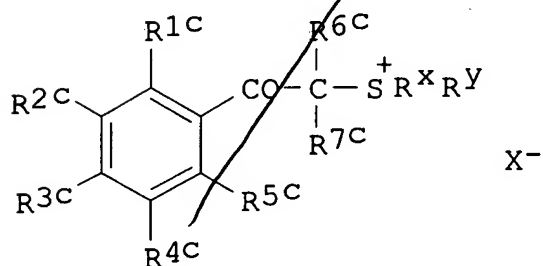
IT 625422-33-5P 625422-43-7P

(pos.-working chem. amplification type photoresist compn. showing improved pattern profile and line edge roughness)

L13 ANSWER 13 OF 15 ZCAPLUS COPYRIGHT 2005 ACS on STN

2003:907503 Document No. 139,388487 Positive-working light-sensitive photoresist composition containing specific photoacid generator and specific resin. Sato, Kenichiro; Kodama, Kunihiro (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003330172 A2 20031119, 70 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-138809 20020514.

GI



AB The title compn. contains a photoacid generator and a resin increasing in an alkali developer by reacting with an acid, wherein the photoacid generator has general structure I (R1c-5c = H, alkyl, alkoxy, etc.; R6c-7c = H, alkyl, aryl; Rx, Ry = alkyl, 2-oxoalkyl, alkoxycarbonylmethyl, ally, vinyl; X- = sulfonate, carboxylate, sulfonylamide anion) or (R1d) (R2d) (R3d)S+ X- (R1d-3d = alkyl, 2-oxoalkyl; X- = anion) and wherein the resin has repeating unit II (R1-4 = H, cyano, hydrocarbon, etc.; m = 0, 1). The compn. is

suitable use with ArF excimer laser and SOG substrates and provides photoresists of the good profile.

IT 625092-97-9P

(pos.-working light-sensitive photoresist compn.)

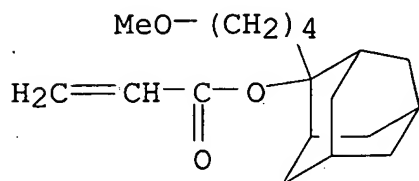
RN 625092-97-9 ZCAPLUS

CN 2-Propenoic acid, 2-(4-methoxybutyl)tricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with 4',5'-dihydrospiro[bicyclo[2.2.1]hept-5-ene-2,3'(2'H)-furan]-2'-one and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 581784-05-6

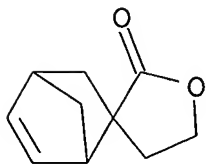
CMF C18 H28 O3



CM 2

CRN 72377-80-1

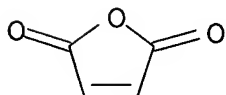
CMF C10 H12 O2



CM 3

CRN 108-31-6

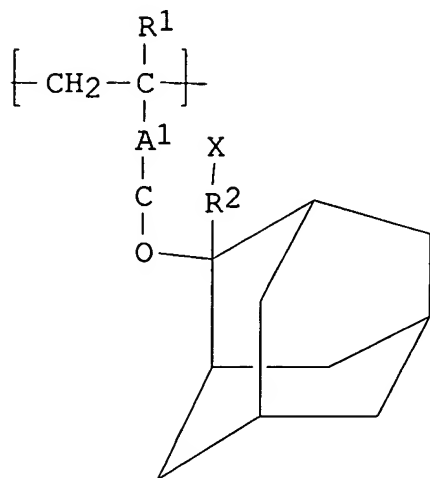
CMF C4 H2 O3



IT 625092-97-9P
(pos.-working light-sensitive photoresist compn.)

L13 ANSWER 14 OF 15 ZCAPLUS COPYRIGHT 2005 ACS on STN
2003:675602 Document No. 139:188325 Positive resist composition.
Sato, Kenichiro (Fuji Photo Film Co., Ltd., Japan). Eur. Pat. Appl.
EP 1338922 A2 20030827, 76 pp. DESIGNATED STATES: R: AT, BE, CH,
DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV,
FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK. (English). CODEN:
EPXXDW. APPLICATION: EP 2003-3244 20030221. PRIORITY: JP
2002-44665 20020221.

GI



I

AB A pos. resist compn. comprises: (A) a resin which comprises a repeating unit represented by I (R1 = H, alkyl group; A1 = single bond or a linking group; R2 = alkylene group; X = alkoxy group, hydroxyl group), which exhibits an increased rate of dissoln. in an alkali developing soln. by an action of an acid; and (B) a compd. capable of generating an acid on exposure to active light rays or a radiation.

IT 581784-06-7P 581784-07-8P 581784-08-9P
581784-11-4P 581784-13-6P 581799-31-7P
581799-32-8P

(pos. resist compn. contg.)

RN 581784-06-7 ZCAPLUS

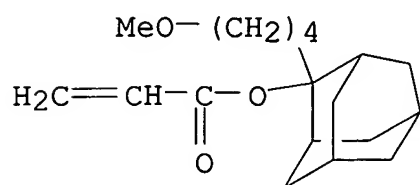
CN 2-Propenoic acid, 2-methyl-, 3,5-dihydroxytricyclo[3.3.1.1^{3,7}]dec-1-yl ester, polymer with hexahydro-2-oxo-3,5-methano-2H-

cyclopenta[b]furan-6-yl 2-methyl-2-propenoate and
2-(4-methoxybutyl)tricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate (9CI)
(CA INDEX NAME)

CM 1

CRN 581784-05-6

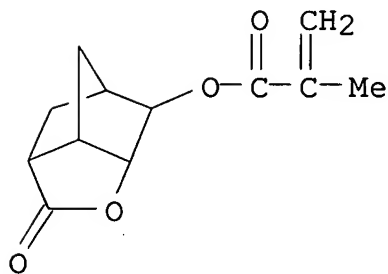
CMF C18 H28 O3



CM 2

CRN 254900-07-7

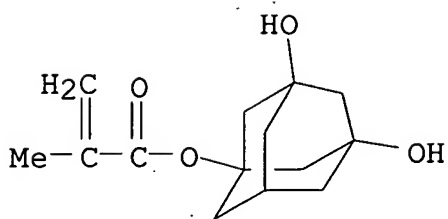
CMF C12 H14 O4



CM 3

CRN 115522-15-1

CMF C14 H20 O4



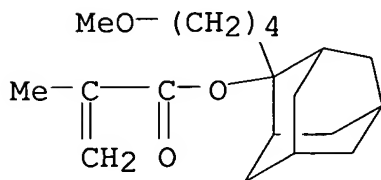
RN 581784-07-8 ZCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3,5-dihydroxytricyclo[3.3.1.13,7]dec-1-yl ester, polymer with 3-hydroxytricyclo[3.3.1.13,7]dec-1-yl 2-methyl-2-propenoate, 2-(4-methoxybutyl)tricyclo[3.3.1.13,7]dec-2-yl 2-methyl-2-propenoate and tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 501422-52-2

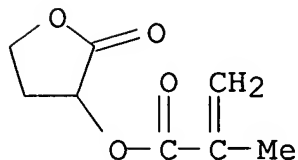
CMF C19 H30 O3



CM 2

CRN 195000-66-9

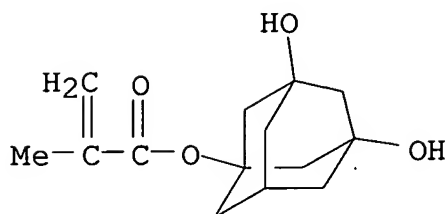
CMF C8 H10 O4



CM 3

CRN 115522-15-1

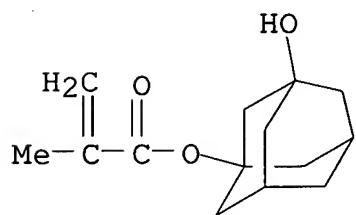
CMF C14 H20 O4



CM 4

CRN 115372-36-6

CMF C14 H20 O3



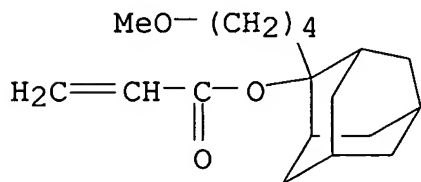
RN 581784-08-9 ZCAPLUS

CN 2-Propenoic acid, 2-methyl-, 4-hydroxybicyclo[2.2.1]hept-1-yl ester,
polymer with 2-(4-methoxybutyl)tricyclo[3.3.1.1^{3,7}]dec-2-yl
2-propenoate, 2-(2-methoxyethoxy)ethyl 2-methyl-2-propenoate and
7-oxo-6-oxabicyclo[3.2.1]oct-4-yl 2-methyl-2-propenoate (9CI). (CA
INDEX NAME)

CM 1

CRN 581784-05-6

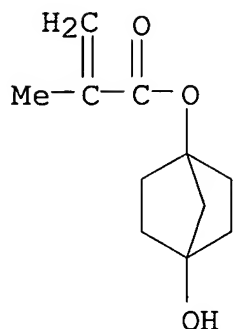
CMF C18 H28 O3



CM 2

CRN 508210-21-7

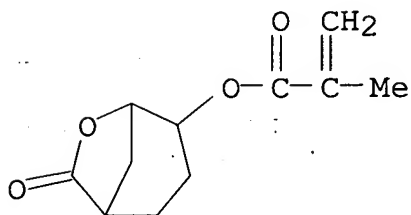
CMF C11 H16 O3



CM 3

CRN 335163-70-7

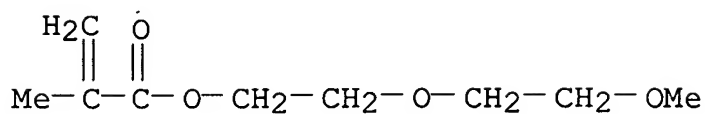
CMF C11 H14 O4



CM 4

CRN 45103-58-0

CMF C9 H16 O4



RN 581784-11-4 ZCAPLUS

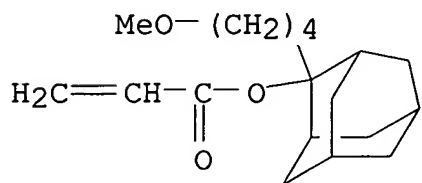
CN 2-Propenoic acid, hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-

6-yl ester, polymer with 3-hydroxy-5-methyltricyclo[3.3.1.1^{3,7}]dec-1-yl 2-methyl-2-propenoate, 2-(4-methoxybutyl)tricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate and 1-methyl-1-tricyclo[3.3.1.1^{3,7}]dec-1-ylethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 581784-05-6

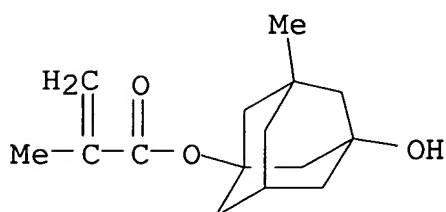
CMF C18 H28 O3



CM 2

CRN 476312-25-1

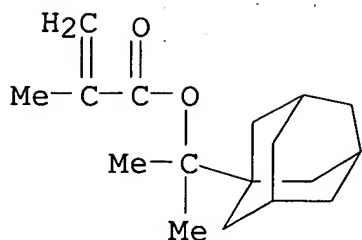
CMF C15 H22 O3



CM 3

CRN 279218-76-7

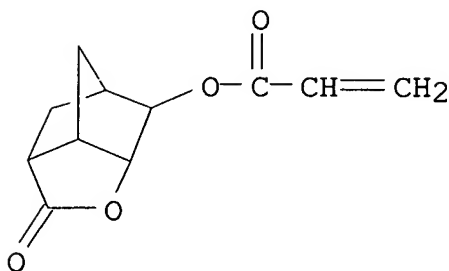
CMF C17 H26 O2



CM 4

CRN 242129-35-7

CMF C11 H12 O4



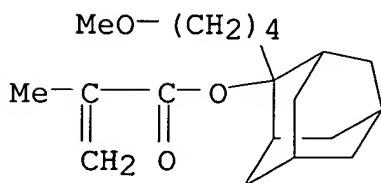
RN 581784-13-6 ZCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-(4-methoxybutyl)tricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with 3-hydroxytricyclo[3.3.1.1^{3,7}]dec-1-yl 2-propenoate, tetrahydro-5,5-dimethyl-2-oxo-3-furanyl 2-methyl-2-propenoate and 1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 501422-52-2

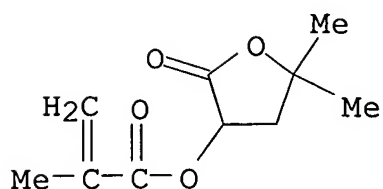
CMF C19 H30 O3



CM 2

CRN 280552-09-2

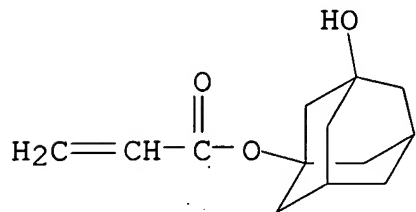
CMF C10 H14 O4



CM 3

CRN 216581-76-9

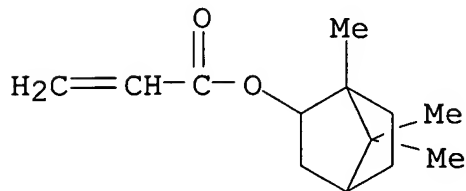
CMF C13 H18 O3



CM 4

CRN 128946-20-3

CMF C13 H20 O2



RN 581799-31-7 ZCAPLUS

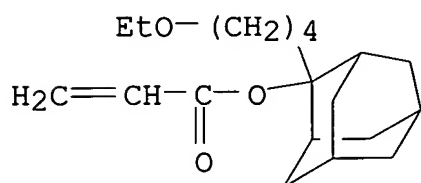
CN 2-Propenoic acid, 2-methyl-, octahydro-1,2(or 2,3)-dihydroxy-4,7-methano-1H-inden-5-yl ester, polymer with 2-(4-

ethoxybutyl)tricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate and
octahydro-1-oxo-4,7-methanoisobenzofuran-5-yl 2-methyl-2-propenoate
(9CI) (CA INDEX NAME)

CM 1

CRN 581799-30-6

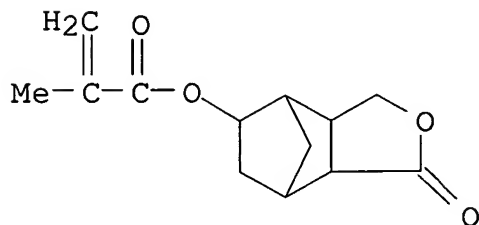
CMF C19 H30 O3



CM 2

CRN 386729-67-5

CMF C13 H16 O4

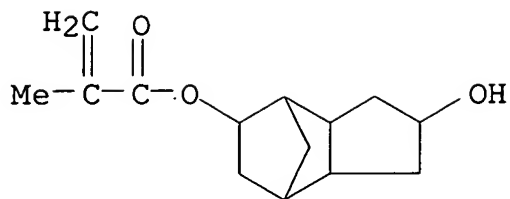


CM 3

CRN 309260-42-2

CMF C14 H20 O4

CCI IDS



D1-OH

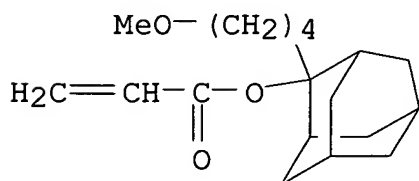
RN 581799-32-8 ZCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with 2-(4-methoxybutyl)tricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate, octahydro-1,2(or 2,3)-dihydroxy-4,7-methano-1H-inden-5-yl 2-methyl-2-propenoate and tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 581784-05-6

CMF C18 H28 O3

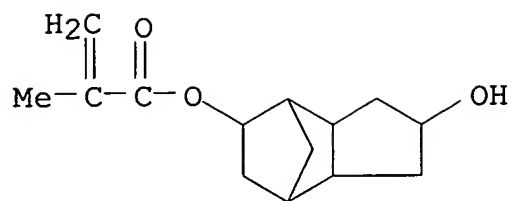


CM 2

CRN 309260-42-2

CMF C14 H20 O4

CCI IDS

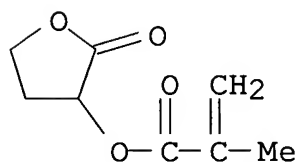


D1-OH

CM 3

CRN 195000-66-9

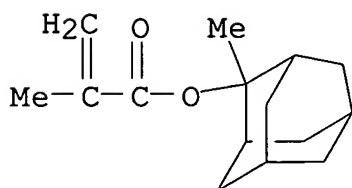
CMF C8 H10 O4



CM 4

CRN 177080-67-0

CMF C15 H22 O2



IT 581784-06-7P 581784-07-8P 581784-08-9P
581784-11-4P 581784-13-6P 581799-31-7P
581799-32-8P

(pos. resist compn. contg.)

2003:214743 Document No. 138:238854 (Meth)acrylic acid copolymers with narrow molecular weight distribution and their manufacture.

Matsumoto, Hitoshi; Nakamura, Mitsuhiro (Nippon Soda Co., Ltd.; Japan). Jpn. Kokai Tokkyo Koho JP 2003082010 A2 20030319, 24 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-272949 20010910.

AB The copolymers suitable for ArF excimer laser photoresist base resins, are manufd. by copolyng. .gtoreq.2 (meth)acrylate esters in the presence of anionic polymn. initiators and 0.1-1.0 equiv mol ratio (based on the initiators) of mineral acid alkali metal and/or alk. earth metal salts and have repeating units CH₂CR₁CO₂AB (R₁ = H, C₁-5 alkyl; A = single bond, ether, ester, carbonyl, alkylene, or their combination; B = lactone residue) and Mw/Mn 1.01-1.50. Thus, 2-methyl-2-adamantyl methacrylate was reacted with methacrylic acid-5-oxo-4-oxatricyclo[4.2.1.0^{3,7}]nonan-2-yl in the presence of LiCl and sec-butyllithium to give a polymer showing Mw/Mn 1.29.

IT 501422-53-3P

((meth)acrylate copolymers with narrow mol. wt. distribution and their manuf. with anionic polymn. initiators and mineral acid alkali or alk. earth metal salts)

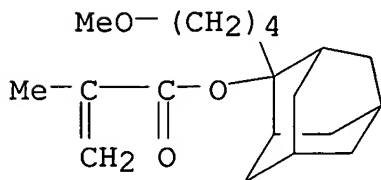
RN 501422-53-3 ZCAPLUS

CN 2-Propenoic acid, 2-methyl-, hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl ester, polymer with 2-(4-methoxybutyl)tricyclo[3.3.1.1^{3,7}]dec-2-yl 2-methyl-2-propenoate and 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 501422-52-2

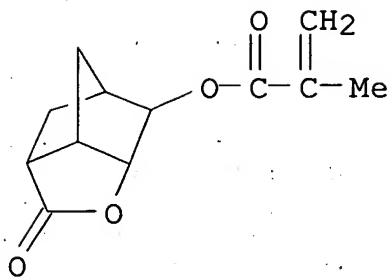
CMF C19 H30 O3



CM 2

CRN 254900-07-7

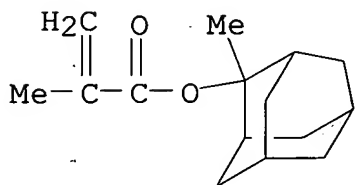
CMF C12 H14 O4



CM 3

CRN 177080-67-0

CMF C15 H22 O2



IT 501422-53-3P

((meth)acrylate copolymers with narrow mol. wt. distribution and their manuf. with anionic polymn. initiators and mineral acid alkali or alk. earth metal salts)